REMARKS

Present Status of the Application

The Office Action rejected claims 1-4, 7, 13-16 under 35 U.S.C. 103(a), as being unpatentable over Hosomi (U.S. 5, 806, 177) in view of the admitted prior art. The Office Action also rejected claims 5, 17 under 35 U.S.C. 103(a), as being unpatentable over Hosomi in view of the admitted prior art and further in view of Takahashi (US. 4,400,438). The Office Action also rejected claims 8, 19 under 35 U.S.C. 103(a), as being unpatentable over Hosomi in view of the admitted prior art and further in view of Yates (US. 6,270,648). Applicants have amended claims 1 and 13 to improve clarity to overcome the rejection. After entry of the foregoing amendments, claims 1-5, 7-8, 13-19 remain pending in the present application, and reconsideration of those claims is respectfully requested.

Discussion of Office Action Rejections

Applicants respectfully traverse the rejection of claims 1-4, 7, 13-16 under 35 U.S.C. 103(a), as being anticipated by Hosomi (U.S. 5, 806, 177, newly recited) in view of the admitted prior art because a prima facie case of obviousness has not been established by the Office Action.

To establish a prima facie case of obviousness under 35 U.S.C. 103(a), each of three requirements must be met. First, the reference or references, taken alone or combined, must teach or suggest each and every element in the claims. Second, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skilled in the art, to combine the references in a manner resulting in the claimed

invention. Third, a reasonable expectation of success must exist. Moreover, each of the three requirements must " be found in the prior art, and not be based on applicant's disclosure." See M.P.E.P. 2143, 8th ed., February 2003.

Applicants respectively traverse the rejections for at least reasons set forth below.

Nevertheless, Applicants have amended claims 1 and 13 to more clearly define the present invention. Claims 1 and 13 as amended read as follows:

1. A method of laminating copper foil onto a substrate of printed circuit board, the steps of the method comprising:

providing a substrate having an upper surface and a lower surface, wherein a circuit is formed on the surface of the substrate;

coating isolating material onto the upper surface and the lower surface of the substrate by using a rolling process;

performing a curing process to allow the isolating material to form isolating layers with a predetermined thickness on the upper surface and the lower surface of the substrate; and

after the isolating material is cured, laminating metal foils without adhesive thereon onto the isolating layers formed on the surfaces of the substrate, wherein the thickness of the isolating material is determined from the type of the metal foil.

13. A method of laminating copper foil onto a substrate of a printed circuit board, the steps of the method comprising:

providing a substrate having an upper surface and a lower surface, wherein a circuit is formed on the surface of the substrate;

coating isolating material onto the upper surface and the lower surface of the substrate by using a rolling process;

performing a curing process to allow the isolating material to form isolating layers with a predetermined thickness on the upper surface and the lower surface of the substrate;

after the isolating material is cured, laminating metal foils without adhesive thereon onto the surfaces of the isolating layers, wherein the thickness of the isolating material is determined from the type of the metal foil; and

performing heating and pressurization processes to secure the metal foils to the surfaces of the isolating layers.

Hosomi discloses a process for producing multiplayer printed circuit board. As shown in Fig. 1A~1C, an internal layer circuit board 1 having an internal layer circuit 2 and an undercoating agent 3 is provided. A copper foil 5 provided with a thermosetting insulating adhesive 4 is laminated to the surface of the tack-free undercoat layer on the internal layer circuit board (col. 10, lines 55-58). Thereafter, the undercoating agent 3 and the thermosetting insulating adhesive 4 coated on the copper foil are simultaneously integrally cured by heating to prepare a multiplayer printed circuit board (col. 11, lines 6-9). Similarly, as shown in Fig 2A~2C, an internal layer circuit board 1 having an internal layer circuit 2 and an undercoating agent 3 is provided. A thermosetting insulating adhesive 4 and a metal foil 15 having a double layer structure are laminated on the internal layer circuit board. Wherein the undercoating agent 3 and the thermosetting insulating adhesive 4 coated on the metal foil 15 are integrally cured. Thereafter, the metal layer 17 which is the carrier foil of the double layer structure is removed (col. 11, lines 15-20).

Hence, the process taught by Hosomi is simultaneously laminating the copper foil 5 (or metal foil 15) and the thermosetting insulating adhesive 4 onto the internal layer circuit board 1. However, claims 1, 13 of the present invention is first coating isolating material onto the upper surface and the lower surface of the substrate by using a rolling process, and then **metal foils without adhesive thereon** are laminated onto the surfaces of the isolating layers. The isolating material and the metal foils are not laminated simultaneously in claims 1, 13 of the present invention.

For the foregoing, Hosomi does not teach or suggest that the metal foil laminated onto the PCB have no adhesive thereon. Applicants respectfully traverse the rejection of claims 1, 13 under 35 U.S.C. 103(a), as being anticipated by Hosomi in view of the admitted prior art because a prima facie case of obviousness has not been established by the Office Action.

For at least the foregoing reasons, claims 1 and 13 are not be anticipated Hosomi in view of the admitted prior art. For the at least same reason, dependent claims 2-4, 7, 14-16 patently define over the prior art as well.

Applicants respectfully traverse the rejection of claims 5, 17 under 35 U.S.C. 103(a), as being unpatentable over Hosomi in view of the admitted prior art and further in view of Takahashi (US. 4,400,438) because a prima facie case of obviousness has not been established by the Office Action. Applicants respectfully traverse the rejection of claims 8, 19 under 35 U.S.C. 103(a), as being unpatentable over Hosomi in view of the admitted prior art and further in view of Yates (U.S. 6,270,648) because a prima facie case of obviousness has not been established by the Office Action.

Applicants first submit that, as disclosed above, independent claims 1, 13 are not disclosed by *Hosomi in view of the admitted prior art*, from which claims 5, 8, 17, 19 depend.

Takahashi discloses that the insulating material is one comprising polyimide. However, Takahashi can not cure the deficiencies of Hosomi in view of the admitted prior art as discussed as above. Thus, claims 1 and 13 as well as their dependent claims 5, 17 are patentable over Hosomi, the admitted prior art in view of Takahashi.

Furthermore, Yates is cited to show that different treatments are known to produce high profile, low profile or reverse copper foils. However, Yates can not cure the deficiencies of Hosomi as discussed as above. Thus, claims 1 and 13 as well as their dependent claims 8, 19 are patentable over Hosomi, the admitted prior art in view of Yates.

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CONCLUSION

For at least the foregoing reasons, it is believed that the pending claims 1-5, 7-8, 13-19 are in proper condition for allowance. If the Examiner believes that a telephone conference would expedite the examination of the above-identified patent application, the Examiner is invited to call the undersigned.

Respectfully submitted,
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